



# How to Ban the Bomb

## GTI Roundtable

### August 2018



Nuclear weapons are irreconcilable with a Great Transition future, as they skew social priorities and exacerbate geopolitical tensions and power imbalances. David Krieger underscores the importance of the “zero option” and an emboldened disarmament movement working together with other movements fighting for systemic change. Our panel discusses the foundations of a more just paradigm for global security.

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# Nuclear Abolition: The Road from Armageddon to Transformation

David Krieger

**Abstract:** Nuclear weapons pose a grave threat to the future of civilization. As long as we allow these weapons to exist, we flirt with the catastrophe that they will be used, whether intentionally or accidentally. Meanwhile, nuclear weapons skew social priorities, create imbalances of power, and heighten geopolitical tension. Diplomacy has brought some noteworthy steps in curbing risks and proliferation, but progress has been uneven and tenuous. The ultimate aim of abolishing these weapons from the face of the earth—the “zero option”—faces formidable challenges of ignorance, apathy, and fatigue. Yet, the total abolition of nuclear weapons is essential for a Great Transition to a future rooted in respect for life, global solidarity, and ecological resilience. This will require an emboldened disarmament movement working synergistically with kindred movements, such as those fighting for peace, environmental sustainability, and economic justice, in pursuit of the shared goal of systemic change.

## Civilization at Risk

Nuclear weapons, unique in their power and capacity for destruction, pose an existential threat to humanity. Although the peril of living at the precipice of nuclear devastation is clear, progress toward nuclear abolition has been slow and uneven, and the issue of nuclear weapons appears distant or abstract to many. And yet, nuclear abolition remains vital to achieving a Great Transition in our minds and on our planet. Ignoring the problem could result in nuclear war, which could leave few, if any, humans to rebuild a better world. With so much at stake, it is more important now than ever to re-energize and broaden the movement toward nuclear abolition. Making Earth a nuclear-free zone would be a gift to all inhabitants of the planet and all future generations.

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The number of nuclear weapons in the world reached a peak of 70,000 in the 1980s amidst the Cold War. Although the nearly 15,000 that exist today across nine nuclear-armed countries (United States, Russia, United Kingdom, France, China, Israel, India, Pakistan, and North Korea) is far below this Cold War zenith, it is still enough to destroy civilization several times over. The vast majority of these weapons are in the arsenals of the US and Russia, the two countries that have always led the nuclear arms race.

To grasp the scope of the risks, consider that atmospheric scientists conclude that a relatively small nuclear war in South Asia, in which India and Pakistan fired fifty Hiroshima-size nuclear weapons at each other's cities, would send enough soot into the upper atmosphere to substantially block sunlight, shorten growing seasons, cause crop failures, and lead to a nuclear famine that could take the lives of some two billion people globally. The sunlight-blocking dust generated by the detonation of, say, 300 thermonuclear weapons in a war between the US and Russia could trigger a new Ice Age, dropping global temperatures to the lowest levels in 18,000 years, and leaving civilization utterly destroyed. Those who would survive the blast, heat, and radiation of nuclear war would live in a nuclear winter of freezing temperatures and perpetual darkness. The survivors would likely envy the dead.

The history of the nuclear age reveals just how resistant nuclear-armed nations have been to real accountability, fueling a vicious cycle of ignorance, apathy, and fatigue. Only a global, systemic movement can bring the global, systemic change required. For that to be a possibility, the nuclear abolition movement must link up with the many other social forces fighting for a better world.

## The Case for Abolition

It is clear that the status quo is not working. The paradigms of arms control and non-proliferation that dominate international diplomacy assume the continued existence of nuclear weapons. However, the dangers inherent in nuclear weapons will remain whether there are tens of thousands or only a few. As long as they exist, they can be used, whether by malicious intent, miscalculation or careless accident.

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this threat stands as a  
profound moral malady  
of our age.

Key attributes of nuclear weapons make them incompatible with a secure, sustainable world:

*Immense destructive potential.* Nuclear weapons are capable of destroying cities, countries, civilization, and most complex life on the planet. The nuclear age has ushered in a new form of devastation: *omnicide*, the death of all. Living with nuclear weapons is like sitting on a world-encompassing keg of dynamite capable of exploding at any moment.

*Lack of discrimination between soldiers and civilians.* Due to their immense destructive power, nuclear weapons cannot distinguish between armed soldiers and civilians, thus violating a basic tenet of international humanitarian law. As the world learned from the atomic bombings of Hiroshima and Nagasaki, deaths from a nuclear attack result from blast, heat, fire, and radiation, the latter especially painful.

*Concentration of power.* The decision to use nuclear weapons resides with a small number of leaders, sometimes only one. In the US, the president is given the codes to launch a nuclear strike, and the same centralization of power holds in other nuclear-armed countries. No pretext exists for democratic procedure, or even a formal declaration of war. Of the nuclear-armed countries, only China and India have current pledges of “no first use,” i.e., that they will not use nuclear weapons unless first attacked with nuclear weapons.

*Geopolitical imbalance.* The world is divided into a small number of nuclear “haves,” and some 185 nuclear “have-nots.” This provides some countries with the leverage to bully other countries into submission. As a result, nuclear weapons look more attractive to all as a way of asserting geopolitical power, increasing the prospects of nuclear proliferation.

*Diversion of resources from meeting basic needs.* The development, testing, deployment, and modernization of nuclear weapons impose immense costs. In recent years, many nuclear powers have embraced a crushing fiscal austerity, reducing public funding for health care, housing, education, and other services for the poor, the hungry, and the needy, while spending billions to maintain or even expand nuclear arsenals. At the same time, scientific and technological resources have been diverted from socially beneficial purposes, such as the rapid development of clean energy technologies.

*Violation of fundamental moral and ethical codes.* Maintaining the nuclear option carries with it the implicit and sometimes explicit threat of mass annihilation, which no major religious, cultural, or philosophical standard of moral principles would condone. The persistence of this threat stands as a profound moral malady of our age; the only cure is unleashing the better angels of our nature in a reinvigorated campaign for nuclear abolition.

## A Brief History of the Nuclear Age

How did the world come to build and maintain, to the tune of more than \$100 billion each year, such civilization-destroying weapons of mass destruction?<sup>1</sup> The story begins with the creation of the first nuclear weapons in the secret US Manhattan Engineering Project during World War II. This massive project was initially sparked by fears, which ultimately proved unfounded, that Germany was well on its way to developing an atomic bomb. The war in Europe, had, indeed, already ended by the time the US conducted its first test of a nuclear device at Alamogordo, New Mexico, on July 16, 1945.

Three weeks later, on August 6, 1945, the US dropped an atomic bomb on the Japanese city of Hiroshima, causing massive destruction and killing up to 90,000 individuals immediately and 145,000 by the year's end. Three days later, the US used a second atomic weapon on the city of Nagasaki, killing tens of thousands more. Later, it came to light that the US knew, through the interception of secret communications, that Japan was trying to surrender and obtain favorable terms.<sup>2</sup> The two bombs were used anyway, purportedly to keep the Soviet military from moving into Japan, while signaling to the Soviet Union and the world the coming preeminence of US military power in the postwar order.

The two bombs were used anyway, signaling the coming preeminence of US military power in the postwar order.

In July 1946, less than a year after the destruction of Hiroshima and Nagasaki, the US began testing nuclear weapons in the Marshall Islands, which the US would administer as a United Nations Trust Territory starting in 1947. The US conducted sixty-seven nuclear tests in the Marshall Islands from 1946 to 1958, the equivalent power of detonating 1.6 Hiroshima bombs each day for twelve years. Marshallese children on islands far away from the tests were powdered with radioactive ash, which they played in like snow. Over the course of the nuclear age, more than 2,000 nuclear tests have been conducted, causing untold numbers of cancers, leukemia, and other radiation-induced illnesses.

By the end of the 1940s, the Soviet Union tested its first nuclear device, triggering a rapidly unfolding arms race. In 1952 and 1953, the US and the Soviet Union, respectively, detonated their first thermonuclear weapons, which, as fusion weapons, were far more powerful than the fission bombs used at Hiroshima and Nagasaki.

The world came very close to nuclear war during the Cuban Missile Crisis in October 1962 over the secret Soviet placement of nuclear missiles in Cuba. A number of incidents during the thirteen-day confrontation could have led either side to launch World War III. Ultimately, to the whole world's benefit, an agreement was reached that the USSR would withdraw its nuclear weapons from Cuba, and the US would later and secretly withdraw its nuclear-armed missiles from Turkey.

After reaching the brink, the US, UK, and Soviet Union took steps to control the nuclear arms race. First, the Partial Test Ban Treaty (PTBT) of 1963 prohibited nuclear testing in the atmosphere, outer space, and under water. The PTBT's preamble stated

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Cold War rivalry.**

clearly that it sought “to achieve the discontinuance of all test explosions of nuclear weapons for all time, [and was] determined to continue negotiations to this end.” But it would take another thirty-three years for the international community to adopt and open for signatures the 1996 Comprehensive Test Ban Treaty (CTBT), which has yet to secure the necessary support to enter into force.

The second treaty in the aftermath of the Cuban Missile Crisis was the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which entered into force in 1970. It aims not only to prevent the proliferation of nuclear weapons to additional countries but also, importantly, to provide for the disarmament of then existing nuclear states: the US, USSR, UK, France, and China. Indeed, the NPT could have been more accurately called the Nuclear Non-Proliferation *and* Disarmament Treaty. Parties agreed to “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” But a major loophole undermined non-proliferation: the treaty refers to nuclear energy as an “inalienable right.” Israel, India, and Pakistan never signed the NPT, and drew upon their so-called peaceful nuclear programs to develop nuclear weapons, while North Korea withdrew from the NPT in 2003, and conducted its first nuclear weapon test in 2006.

The next two decades saw continued efforts by the Cold War superpowers to mitigate the risks of nuclear war. In 1972, the US and Soviet Union entered into the Anti-Ballistic Missile (ABM) Treaty, which set limits on the number of sites that could be protected with missile defense systems (the deployment of ABM systems had exacerbated the arms race as countries sought to build even more powerful weapons to overcome them). Then, at a 1986 summit in Reykjavík, Presidents Ronald Reagan and Mikhail Gorbachev jointly stated that “a nuclear war cannot be won, and must never be fought.” They came close to agreeing to abolish their nuclear arsenals, but negotiations collapsed over Reagan’s insistence on developing missile defenses. With the collapse of the Soviet Union several years later, the Cold War came to an end, but bloated nuclear arsenals remain a troublesome and dangerous legacy of Cold War rivalry that has been difficult to dislodge.

The post-Cold War era has offered a mixed landscape on nuclear disarmament. In 2002, the US unilaterally withdrew from the ABM Treaty, and soon began deploying missile defense installations in Eastern Europe near the Russian border, purportedly against a threat from Iran. But Russia is concerned that their real purpose is to take out any Russian offensive missiles that might survive a US first strike.<sup>3</sup> The US abrogation of the ABM Treaty also removed restraints on stationing weapons in outer space. US withdrawal from the ABM Treaty may prove to be the single greatest blunder of the nuclear age.



Once the Cold War ended, interest in nuclear disarmament issues rapidly faded.

This checkered history notwithstanding, there has been some progress. A series of Strategic Arms Reduction Treaties (START) have substantially reduced US and Russian arsenals. As of 2018, each country is limited to the deployment of 1,550 strategic nuclear weapons, still far more than enough to destroy most humans and other complex forms of life on the planet.<sup>4</sup>

In July 2017, the United Nations adopted the Treaty on the Prohibition of Nuclear Weapons (TPNW), the result of a partnership between the International Campaign to Abolish Nuclear Weapons (ICAN), a coalition of civil society organizations, and most non-nuclear weapon states. They joined forces to assert that nuclear war would be a dead end for humanity, with a total ban on nuclear weapons the only way out. ICAN's 2017 Nobel Peace Prize builds momentum, but achieving the necessary ratifications of 50 countries will take time. The US, UK, and France have vowed never to sign or ratify it, preferring to control their own nuclear arsenals rather than to cooperate in preserving a livable world—a reminder of the entrenched opposition the nuclear abolition movement faces.

### Challenges for Movement-Building

The nuclear disarmament movement reached its apex in the early 1980s, when the arms race looked bleakest. In 1982, more than a million people took to the streets in New York to demand that the number of nuclear weapons be frozen and further deployment cease. One must wonder if the protest was so large because it asked for so little: a freeze, rather than deep reductions. Still, the movement succeeded in spreading public awareness and concern about the dangers. Once the Cold War ended, though, interest in nuclear disarmament issues rapidly faded.

Various factors have contributed to this decline in enthusiasm. First and foremost is ignorance. The awesome destructiveness of nuclear weapons lacks tangibility since they are largely kept out of the public sight and mind. As a result, many in nuclear-armed countries see them as a positive source of prestige and necessity for security. Nuclear countries boast of technological achievement and belonging to an exclusive “club.” When the Indians and Pakistanis tested nuclear weapons in 1998, for instance, their people took to the streets in celebration. Such national pride undermines efforts to establish nuclear abolition policies. At the same time, the security justification—the belief that nuclear weapons offer protection—is a fallacy. In fact, countries that possess them, by posing risks to other countries, become more likely to be nuclear targets themselves.

Contrasting narratives about the bombing of Hiroshima and Nagasaki exemplify the tension between nuclear pride and punishment. Most people, at least in the US, learn in school that the atomic attacks were necessary to save American lives. A different story is told by the Japanese survivors—a story of pain, suffering, and death. These two stories, one from above the mushroom cloud and one from below it, compete

The nuclear abolition movement builds on the stories from those beneath the mushroom cloud.

for dominance as frameworks drawing lessons of the past for guiding the future. The story from above, celebrating technological achievement, serves to keep the nuclear arms race alive. The story from below awakens humanity to the extreme peril it faces. The nuclear abolition movement builds on the stories from ground-zero, those beneath the mushroom cloud.

Beyond ignorance and its cousin pride, another source of apathy is a sense of fatigue. We must use our imaginations to envision the horror of nuclear catastrophe, but it is very difficult to sustain such fear in the public mind year after year, decade after decade, in the absence of nuclear war. The world has come close on many occasions, but malice, madness, or mistake has not yet triggered the use of nuclear weapons in war since World War II. Nonetheless, it is essential that we keep shouting warnings despite accusations of being “the boy who cried wolf.” Only by sounding the alarm can we build a movement with sufficient power to abolish nuclear weapons once and for all.

Even when people understand the dangers of nuclear weapons, however, they may still be paralyzed by a perceived lack of power to bring about change. With decision-making power on nuclear policy highly centralized, individuals lack influence—unless they become politically active in large numbers. Ironically, the perception of impotence becomes a self-fulfilling prophecy that impedes movement-building and effective change.

The only way to change direction is to build a strong popular movement, in the nuclear-armed countries and throughout the world, to delegitimize nuclear weapons, support the Treaty on the Prohibition on Nuclear Weapons, and oppose reliance on nuclear arsenals. Political pressure from below is our best hope for getting governments of the nuclear states to join the rest of the world in prohibiting the possession, use, and threat of use of nuclear arms.

## Toward Systemic Change

Nuclear weapons stand as the quintessential shared risk, posing a danger to the whole of humanity. The problem cannot be solved by any one nation alone. Nuclear abolition requires collective global action—a deep shift in values and institutions lest the forces that created the nuclear age continue to prevail.

Just as no nation can succeed on its own, in our interdependent world, no movement seeking fundamental change can truly succeed on its own. However, movements are too often isolated in different issue silos, competing for support and scarce resources. This fragmentation erodes unity and long-term impact. The nuclear abolition movement must join with other movements seeking systemic global change.

Synergy is most promising with the wider peace movement, the environmental movement, and the environmental justice movement.

Synergy is most promising between the nuclear abolition movement and the wider peace movement, the environmental movement, and the economic justice movement. Each of these movements demands a global sensibility and global action. And each calls into question the governing assumptions of society that have led us down an unsustainable path.

The most obvious opportunity for cross-movement collaboration is with the peace movement. Any war involving nuclear-armed states or their allies could lead to the use of nuclear weapons. Peace activists, of course, have often been on the frontlines protesting the expansion of nuclear arsenals. However, the peace movement in the US and globally appears to be exhausted after the long wars in Afghanistan, Iraq, and elsewhere in the Middle East that have dragged on for more than a decade.

Still, there are bright spots. New approaches to peace literacy are sprouting up.<sup>5</sup> Veterans groups, such as Veterans for Peace (VFP), have helped to reinvigorate the peace movement. Through their first-hand experience with warfare, the veterans bring a unique perspective, legitimacy, and energy to the quest for peace, and have demonstrated a willingness to take on the issue of nuclear abolition as well. VFP has resurrected the *Golden Rule*, a ship that first sailed in the 1950s to protest atmospheric nuclear weapons testing in the Pacific. Now, she sails again in support of nuclear abolition and to display the bravery and tenacity that can overcome militarism. VFP also supports such disarmament projects as the lawsuits filed by the Marshall Islands in 2014 at the International Court of Justice against the nine nuclear-armed countries.<sup>6</sup> The British Nuclear Test Veterans Association and other groups work to support veterans who have suffered radiation exposure from nuclear tests.

The environmental movement offers another potential partner for cross-movement collaboration. Nuclear abolition has not been high on the priority list of the environmental movement. At least in the US, the movement has been preoccupied with defensive battles against an administration intent on rolling back environmental protection. Even before, it focused on tangible and immediately pressing battles while tackling such planetary-scale threats as ozone depletion and climate change.

Environmentalists have, however, sounded the alarm on the deleterious impacts of so-called “peaceful” nuclear power, particularly in the aftermath of the accidents at Three Mile Island in the US, Chernobyl in the former Soviet Union, and Fukushima in Japan. But this is just one facet of the threat nuclear technology poses to a livable planet. Without total abolition, every aspect of the Earth’s living systems, as well as life itself, remains at risk, while building and maintaining these tools of total war are a drag on efforts to transition toward a sustainable economy. As nuclear energy always contains within it the possibility of nuclear proliferation, advocates of nuclear abolition must likewise get behind the fight for a renewables-driven clean economy that would render such technology unnecessary.

The militarization of the economy and the centralization of power are incompatible with egalitarian national systems.

The economic justice movement is a third promising ally of the nuclear abolition movement. Nuclear weapons systems have consumed vast public resources since the onset of the nuclear age. The US alone has spent more \$7.5 trillion on its nuclear arsenal, and plans to spend \$1.7 trillion more over the next three decades to modernize it. World nuclear weapons expenditures exceed \$1 trillion per decade, with the US accounting for over sixty percent of the total with Russia accounting for 14 percent and China 7 percent.<sup>7</sup> These resources could be far better used to provide food, clean water, shelter, health care, and education to those in need. This diversion of resources is a double whammy: we underspend on human and ecological well-being while intensifying the threat of a nuclear catastrophe.

The militarization of the economy and centralization of power, for which nuclear weapons have been both cause and effect, are incompatible with egalitarian national economic systems. Internationally, as long as nuclear weapons give a handful of countries outsized power on the global stage, especially the ability to make credible threats, the shift toward a more democratic global economic system will be impossible.

For all these reasons, nuclear abolition serves the cause of economic justice. And it is equally true that those of us who care about the nuclear threat need to advocate for greater justice. Economic inequality within and between nations fosters polarization, migration pressure, and geopolitical conflict, thereby raising the risk of (nuclear) war. Thus the peace movement has powerful incentives to ally with social justice movements.

Peace, a healthy environment, and economic justice will remain elusive in a nuclear world. A cooperative movement of movements would enhance the capacity of each constituent to achieve its own goals, while fostering the cross-movement solidarity that can bring a Great Transition future. With the alarms sounding, the time has come to act together with a sense of urgency.

### Armageddon or Transformation?

At the onset of the nuclear age, Einstein reflected, “The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe.” The splitting of the atom made new modes of thinking not only desirable but necessary. Nuclear weapons threaten the future of civilization and the human species. We can no longer think in old ways, solving differences among countries by means of warfare. Instead of absolute allegiance to a sovereign state, we must think holistically and globally. In light of the omnicide that our technologies have made possible, we must elevate our moral and spiritual awareness to forge a movement global and systemic enough to meet the challenges ahead.

We are compelled to transform our world or to face Armageddon.

Armageddon is a frightening thought, but as long as these “doomsday machines” exist, to use Daniel Ellsberg’s term, it remains a possibility. The only realistic alternative to Armageddon is transformation, both of individual and collective consciousness: an “anti-nuclear revolution,” to quote activist Helen Caldicott.<sup>8</sup> This requires nothing less than changing the course of history; we are compelled to transform our world or to face Armageddon.

Change ultimately begins with individuals. Movements are composed of committed individuals, some of whom step forward as leaders. The task is to awaken to the urgency of the threat and mobilize. The nuclear age and the Great Transition call upon us, before it is too late, to wake up.

## **WAKE UP!**

The alarm is sounding.  
Can you hear it?

Can you hear the bells  
of Nagasaki  
ringing out for peace?

Can you feel the heartbeat  
of Hiroshima  
pulsing out for life?

The survivors of Hiroshima  
and Nagasaki  
are growing older.

Their message is clear:  
Never again!

Wake up!  
Now, before the feathered arrow  
is placed into the bow.

Now, before the string  
of the bow is pulled taut,  
the arrow poised for flight.

Now, before the arrow is let loose,  
before it flies across oceans  
and continents.

Now, before we are engulfed in flames,  
while there is still time, while we still can,  
Wake up!

## Endnotes

1. Bruce Blair and Matthew Brown, *Nuclear Weapons Cost Study* (Washington, DC: Global Zero, 2011).
2. Gar Alperovitz, "The War Was Won Before Hiroshima – And the Generals Who Dropped the Bomb Knew It," *The Nation*, August 6, 2015, <https://www.thenation.com/article/why-the-us-really-bombed-hiroshima/>.
3. The US public and leaders might more easily sympathize with this concern by imagining a scenario where Russian missile defenses were deployed at the Canadian or Mexican borders.
4. President Trump's criticism of this Obama-era treaty, which clouds its prospects, should also be noted. See <https://www.reuters.com/article/us-usa-trump-putin-idUSKBN15O2A5>.
5. A program developed by Paul Chappell at the Nuclear Age Peace Foundation is making its way into school curricula. See <http://www.peaceliteracy.org>.
6. Although the lawsuit was dismissed, this type of action helps to forge a united front for a livable future.
7. Joseph Cirincione, "Lessons Lost," *Bulletin of the Atomic Scientists* (November/December 2005): 47, <https://thebulletin.org/2005/november/lessons-lost>; Kingston Reif, "CBO: Nuclear Arsenal to Cost \$1.2 Trillion," Arms Control Association, December, 2017, <https://www.armscontrol.org/act/2017-12/news/cbo-nuclear-arsenal-cost-12-trillion>. Note that this will be \$1.7 trillion when factoring in inflation.
8. Daniel Ellsberg, *The Doomsday Machine: Confessions of a Nuclear War Planner* (New York: Bloomsbury, 2017); Helen Caldicott, *Sleepwalking to Armageddon: The Threat of Nuclear Annihilation* (New York: The New Press, 2017).

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## About the Author



David Krieger has served as president of the Nuclear Age Peace Foundation, which he co-founded, since 1982. He has been a leader in the global movement to abolish nuclear weapons, playing a key role in international networks such as Abolition 2000, the International Network of Engineers and Scientists for Global Responsibility, and the Middle Powers Initiative. He has written scores of articles and books, including *ZERO: The Case for Nuclear Weapons Abolition* (2013).



## Roundtable





## David Barash

It is a pleasure to thank David Krieger for his brilliant and timely essay, for hitting nuclear weapons right on the head, and for adroitly managing both suitable emotion and needed intellectual rigor. And it is with a sense of appreciation and hope that I urge all readers of this marvelous compilation to disseminate the original essay and the comments as widely as possible. Everything—literally everything—is at stake!

Rather than iterate my enthusiastic concurrence, I will first take this opportunity to register an observation: One problem with achieving denuclearization is manifested, paradoxically, by the fact that all of the comments so far have been positive and supportive! No one has yet disagreed, and in a sense, this is unfortunate, because it reflects the reality that we anti-nuclear activists have been preaching to the choir. Somehow, we need to get outside the silo of those who already agree with us, and motivate the great majority of Americans for whom the nuclear issue barely registers, if at all. I wish I knew how to do this, how to evoke the sense of anxiety mixed with can-do desperation that characterized the antinuclear movement during the Reagan years.

Those of us committed to nuclear zero would be well advised to confront the widespread but fallacious argument that we need these weapons in the interest of deterrence.<sup>1</sup>

The fact that the Cold War never went hot might have been due to deterrence, or to the fact that the US and USSR had nothing worth warring about. And, of course, correlation is different from causation. In ancient China, it was widely believed that solar eclipses were caused by a dragon swallowing the sun, so people responded to sudden darkening by making as much noise as possible: banging pots and gongs, yelling loudly—and guess what? It worked! Every time. If, for some reason, the villagers had refrained from all that noise-making and the eclipse resolved anyhow, the worst outcome would have been a loss of confidence in the role of dragons. But if

nuclear deterrence had failed, I likely wouldn't be around to write this, or you to read it, so neither of us would be congratulating ourselves on the efficacy of deterrence.

In some cases, it only takes one failure for an entire scaffolding, previously thought to be safe, to come crashing down. The Concorde Supersonic Transport entered service in 1976 and flew flawlessly throughout the late 1970s and 1980s. In fact, it was lauded as not only the fastest but the safest passenger plane of all, having a zero accident and fatality rate. Then, in 1990, one of them crashed on a runway in Paris, killing all 109 people on board and ultimately grounding the entire fleet, which was subsequently abandoned. Its safety record instantly jumped from the safest to the most dangerous (because only a handful of the planes were ever built and flown). Failure of the Chinese dragon myth wouldn't have been catastrophic; failure of the Concorde was, but "only" for the passengers (and the plane's investors); failure of deterrence—just once—would be catastrophic for hundreds of thousands, more likely millions and perhaps billions, not to mention the rest of the innocent natural world. Such considerations should mitigate the celebratory confidence as to the reliability of deterrence, and the fact that it has always worked...thus far.

Moreover, you cannot prove a counterfactual: why something has not happened. Maybe there was no US-Soviet nuclear war because of the Howdy Doody show, or the invention of air conditioning. To be sure, the Cuban Missile Crisis of 1962—when, by most accounts, we were closest to nuclear Armageddon—is sometimes cited as an example of successful deterrence. But, in fact, this crisis was caused by nuclear weapons, specifically the Soviet attempt to base nuclear missiles in Cuba. And according to many historians, the major reason Khrushchev backed down was that the Soviets were greatly inferior to the US in conventional military forces in the Caribbean. In any event, it is not unlikely that the Cuban Missile Crisis was resolved short of nuclear war not because of nuclear deterrence, but despite it. It may seem a truism that, absent nuclear weapons, there wouldn't have been any crisis, but that is precisely the point: Khrushchev's move to install nukes in Cuba in 1962 was a direct consequence of the Soviet perception that such weaponry was needed. Why? To deter the US, which had deployed intermediate-range Thor missiles in the UK in 1959, and Jupiter missiles in Turkey in 1961. And why had the US done that? To deter the Soviet Union. (An initially unpublicized part of the agreement that ended the Cuban Missile Crisis was for these Soviet and

US missiles—i.e., mutual provocations—to be removed. In that limited sense, deterrence was successful: as a prod toward giving up on one aspect of itself.)

But haven't nuclear weapons and their deterrent threats enabled nuclear armed countries to get their way in the world? Hardly. The US wasn't able to bend North Vietnam to its will, or the Viet Cong in South Vietnam. Our atomic arsenal didn't benefit us in Korea, Iraq, Afghanistan, Libya, or against ISIS, nor did the Soviets gain similarly in Afghanistan, or in keeping control of its East European satellites, or even in maintaining its territorial integrity. France's nukes didn't help them keep Algeria. And when it comes to protecting them from attack by non-nuclear aggressors, forget it. In 1951, China's non-nuclear status didn't inhibit Mao from sending hundreds of thousands of soldiers against a nuclear-armed US in Korea, nor was non-nuclear Argentina inhibited from invading nuclear Britain's Falkland Islands in 1982. There are many other examples, to which the following must be added: nukes didn't deter terrorist attacks against the US on 9/11, or subsequently against the UK or France, attacks that in the future are far more likely to be conducted with nuclear weapons than deterred by them.

In short, deterrence is a sham, a shibboleth evoked by those seeking to justify the unjustifiable. Will the positive future envisaged by David Krieger ever come to pass? Maybe. Or maybe not. But in any event, we might want to internalize the ancient Jewish wisdom that "It is not for you to finish the task; but neither is it for you to refrain from it."

## Endnotes

1. The following is based on the author's "Deterrence and Its Discontents," *Skeptic* (March 2018), [https://www.skeptic.com/reading\\_room/nuclear-deterrence-discontents/](https://www.skeptic.com/reading_room/nuclear-deterrence-discontents/).

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## About the Author



David Barash is an evolutionary biologist, peace activist, and Emeritus Professor of Psychology at the University of Washington. His research focuses on understanding the underlying evolutionary factors influencing human behavior. He has written many books, most recently *Through a Glass Brightly: Using Science to See Our Species as We Really Are* and *Strength Through Peace: Happiness and Demilitarization in Costa Rica*, and *What the World Can Learn from a Tiny Central American Country* (with Judith Lipton). He holds a PhD in zoology from the University of Wisconsin-Madison.



## Andreas Bummel

The development of nuclear weapons has led humanity into a new age of unprecedented insecurity and threat. In his valuable piece, David Krieger reminds us of the risks and wider implications of nuclear armament. He rightfully points out that “nuclear weapons stand as the quintessential shared risk, posing a danger to the whole of humanity” and that “the nuclear abolition movement must join with other movements seeking systemic global change.”

What kind of systemic change exactly? For nuclear scientists, it was clear early on that it is either One World or None, as the title of a volume published in 1946 went. Albert Einstein, Leo Szilard, and others strongly promoted a world government as the only sustainable solution they could think of that would allow for containing the danger of nuclear weapons. In said volume, Walter Lippmann wrote that it is impossible to rely on international agreements that are only enforceable insofar as sovereign states would and could coerce other sovereign states. In short, this was and still is a description of the status quo. What is required instead is to relinquish sovereignty in this domain and to accept a global authority that would provide for enforcement and collective security.

While steps like the Treaty on the Prohibition of Nuclear Weapons represent important achievements that need to be celebrated, it must be recognized that today’s Westphalian system of international law and sovereign states is dysfunctional and that it does not provide for the security and enforcement architecture that is needed to achieve and sustain total nuclear disarmament. The abolishment of nuclear weapons, once and for all, is much more than a question of political will and awareness. It is indeed about systemic change. It is about institution-building and a transformation of today’s United Nations into a representative, democratic, legitimate, effective, and reliable system of collective security. It is about creating a system of world law. One important foundation, for example, will have to be a citizen-elected assembly that represents the interests of all of humanity.

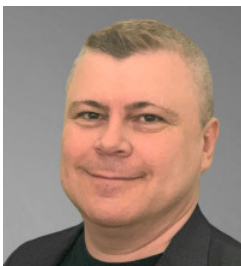
This sort of institutional change is all the more crucial as the total abolishment of nuclear weapons cannot be achieved without substantial conventional disarmament and armaments control.

Without nuclear deterrence, the importance of conventional military capability will grow again and raise the likelihood of military escalation of conflicts, including between great powers, which would immediately set off in turn a race for nuclear re-armament. For this reason, substantial conventional disarmament needs to be high on the agenda of the nuclear abolition movement in addition to far-reaching UN reforms (including the development of supranational military and police capabilities). In this vein, the McCloy-Zorin Accords of 1961 between the US and the Soviet Union, which sank into oblivion after John F. Kennedy's assassination, represented an amazingly radical international program for "general and complete disarmament" which should be an important point of reference and inspiration to this day.

The abolishment of nuclear weapons in all its implications may be one of the biggest challenges on the path towards a sustainable and secure world, but the alternative may be no less than the destruction of world civilization.

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## About the Author



Andreas Bummel is co-founder and Executive Director of Democracy Without Borders, an international civil society group promoting global democratic governance. He coordinates the Campaign for a United Nations Parliamentary Assembly, which advocates democratic representation of the world's citizens at the UN and has been endorsed by 1,500 sitting and former lawmakers from over 100 countries. He is co-author of *A World Parliament: Governance and Democracy in the 21st Century* and *A United Nations Parliamentary Assembly: A Policy Review of Democracy Without Borders*.

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## Richard Falk

It is a privilege to have this opportunity to comment on David Krieger's fine essay that authoritatively highlights the dangers of the present reliance on nuclearism (the possession of nuclear capabilities with a declared willingness to threaten and use them for security and possibly other undisclosed purposes) and the possibility of achieving a world without nuclear weapons without minimizing the obstacles that have blocked such a path for more than seventy years. Krieger as much as anyone on the planet has devoted his professional life and personal engagement to achieving this transition, and his essay embodies both his lifelong commitment and his mastery of the subject-matter, a combination of vision of the necessary and desirable and knowledge of the scope and depth of the challenge. In essence, I share his outlook, but as explaining the extent of my agreement would be totally unenlightening, I will concentrate on our small differences that are both conceptual and tactical.

For one, I take issue with the contention that "progress toward nuclear abolition has been slow and uneven." I regard any attribution of progress, given the argument of the essay, as misleading. For various reasons, I believe that, rather than progressing, the world is further from achieving nuclear disarmament than it was in the first decades after the end of World War II when both the United States and the Soviet Union were existentially frightened by their sense of the nuclear road ahead, and put forward proposals that were ambivalent to some degree, yet seemed to entertain the disarmament option with some seriousness. I think it is fundamentally misleading to consider arms control measures, such as treaties addressing nonproliferation or the nuclear arms race, as bringing the world closer to disarmament. I believe that such measures, which may or may not be desirable for other reasons such as risk of unintended use or cost, are neither calculated as steps toward disarmament nor do they have that effect. On the contrary, ever since arms control became a parallel track to either an unregulated arms race or disarmament, it has had the opposite effect of

stabilizing the nuclear weapons environment, relaxing public worries that the nuclear arsenal and deterrence deployments were leading the world toward disaster.

To be clear, I think that the START agreement's reducing the number of nuclear warheads possessed by the US and Russia is a good thing for practical reasons, but to suppose it brings us an inch close to nuclear disarmament is pure wishful thinking. It is only negotiable because it accords with the outlook of the governmental bureaucracy for what might be labeled prudent nuclearism, a means to oppose those wild-eyed militarists who think making greater uses of nuclear weapons is a credible way to throttle our enemies and free our friends.

My basic contention is that arms control, including the nonproliferation regime, is managerial and not transformative in Krieger's sense, about which we are in full agreement. Of course, if we read the text of the Non-Proliferation Treaty (NPT), we could be easily misled into thinking that Article VI, with its apparent commitment by the nuclear weapons states to seek nuclear disarmament as an urgent priority and in good faith, was pointing the world in the right direction when negotiated in 1968. After these decades of manifest non-compliance, as confirmed by a strong majority in the International Court of Justice in 1996, it should be obvious that there is no political will on the part of these states to pursue disarmament except as a PR maneuver. As well, there are no capabilities on the part of the non-nuclear community of states, NGOs, and activists to implement the provision. The statement of the United States, France, and the UK repudiating the transformative intentions of the 2017 Treaty of Prohibition of Nuclear Weapons should have removed the last shred of doubt that the treaty obligation of Article VI is a dead letter.

When it comes to the endorsement of the GTI agenda for systemic change, I feel Krieger strikes all the right notes. If this ambitious political agenda, of which denuclearization and nuclear disarmament are key features, is to be realized, it will depend on two developments: mobilization of a transnational popular movement committed to nonviolent militancy and synergistic collaboration with kindred groups that focus on peace, climate change, and environment, as well as NGOs' giving priority to human rights and social and economic justice. It seems a fool's errand for transformative constituencies to wait for the right leaders to come along in the nuclear weapons states. In my view, another fallacy of the arms control approach is to dump all its American eggs in the Washington basket. Where there is almost no resonance, it becomes politically suspect to devote continuing

energy and scarce resources to an undertaking, making one wonder whether seeking a seat at the table is a comfortable way of hiding failure at the policy level.

While it is appropriate for David to mention the educational efforts of the Nuclear Age Peace Foundation (NAPF), which has been promoting an abolitionist agenda for almost 30 years, it should be acknowledged that the political mood at present is not encouraging. Various forms of nationalist fervor have been dominating the political space in many of the leading governments of the world, including the United States. The transformative causes favored by GTI and NAPF seem temporarily, at least, out of favor. We seem to be living through a period where the main struggles are dedicated to avoiding a deeper slide into regressive behavior, with the crux of most liberal and even progressive efforts being of a decidedly defensive nature. Typical of the times are protests and initiatives directed at the abuses of state power, particularly directed at outsiders—migrants and asylum seekers—and social programs. We are struggling to stop a variety of normative retreats in the fields of education, health care, reproductive and transgender rights, and public broadcasting.

Despite the dismal outlook that prevails at this moment, it is not a time to lose faith in the practical—indeed, the urgent—relevance of transformative horizons, both on the somewhat limited question of nuclearism and on the encompassing GTI preoccupation with systemic change. These seemingly distant horizons are more deserving of support than ever before for a combination of normative and functional reasons. If we ever hope to meet the challenges now threatening humanity with extinction and envision a future that brings a better life to the peoples of the world, we will need somehow to navigate to these distant horizons.

In part, a more hopeful outlook can be grounded in a dialectical understanding of historical unfolding. As the darkening clouds of extreme statism, and its tribal nationalist ideologies, are making their weight felt around the world, contradictions are emerging: we cannot hope to escape the multiple harmful impacts of global warming or the secondary effects of migratory flows that undermine the stability of existing political communities without a politics that transcends the confines of feasibility, which leave us as a species and society with the challenges unmet, even intensifying.

It is in this spirit that Krieger calls our attention to what to expect if a nuclear war breaks out. The



irresponsible blustering diplomacy of the Trump presidency has created a wider appreciation around the world of the consequences of unleashing forces that could by the logic of past wars produce a nuclear war with catastrophic consequences beyond our imagining, the sheer magnitude of which is conveyed by depicting its dire effects, but not the real time nightmare that would suddenly become human destiny.

In such a time, it is itself an act of will to keep the flames of hope and possibility from being snuffed out. Krieger's essay, backed by a lifetime of commitment, anchors us in this complex reality of challenge, necessity, and desire. The challenge is spiritual as well as practical, the necessity is functional as well as transformative, and the desire is more than a wish list as its affirmation is itself an invitation to embark upon an empowering and emancipatory journey.

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## About the Author



Richard Falk is Albert G. Milbank Professor Emeritus of International Law at Princeton University, Fellow of the Orfalea Center of Global Studies at the University of California, Santa Barbara, and Associate Fellow at Tellus Institute. He directs the project on Global Climate Change, Human Security, and Democracy at UCSB and formerly served as director of the North American group of the World Order Models Project and the UN Special Rapporteur on Human Rights in Occupied Palestine. He is the author of such books as *Power Shift: On the New Global Order*; *(Re)Imagining Humane Global Governance*; *Religion and Humane Global Governance*; and *Explorations at the Edge of Time*. He holds an SJD from Harvard University.

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## Anna Harris

I am wondering why most of the commenters who have responded to this topic are men. Is it that women have no interest in the nuclear Armageddon, or are they loath to speak up in what is seen as a man's area? My own feeling is the unspeakable rage that I feel that one can talk sensibly at all about these weapons of mass destruction, but even more that we single out the biggest and most destructive as though this will address the problem.

Nuclear weapons certainly symbolize a larger lack of trust and cooperation, but the reality is that getting rid of nuclear weapons alone will do nothing to improve the prospects of a human global family managing to live together on this planet. What is lacking, to put it bluntly, is the ability to talk about feelings, which is something women seem to have developed more, and without which this whole discussion becomes one of control and numbers which renders it to me almost totally meaningless. I am talking here about the validity of subjective experience, which needs to be acknowledged before any intelligent discussion about who we are or how we arrange our future can take place.

I have expressed before the opinion that men and women are not essentially different, that their biological differences do not define the qualities associated with masculine and feminine, as much research shows, and as we see in the range of gender categories now available for people, and children, to choose. But our institutions still insist on those binary categories, reinforced by media and entertainment. Men are taught very early on that their feelings need to be suppressed in order to be manly. And women still on the whole are the ones who are seen as "carers."

Many of you, I am sure, have enjoyed watching the World Cup recently. It is well known that the incidence of domestic violence increases during a Cup Final. I noticed currently in a local hospital ads appealing to men not to destroy their lives when their team loses. As long as men are taught

not to care, except about winning and losing, violence becomes the method of choice. We are part of a system which extols competition and turns a blind eye to the consequences.

Nuclear weapons are the logical outcome of this system. It is a system which reaches every aspect of our lives. To try to deal with nuclear weapons as though they can be approached as a separate problem makes no sense. The fact that they are bigger, and kill more people, and destroy larger areas, does not make them more important. Size is not the criterion here.

Not being in touch with our feelings, or not being able or encouraged to express feelings directly, also has other consequences. It means we tend to look to “facts” as representing truth. Many of the essays here attempt to describe dispassionately because that is what is seen as needed. Feelings would be out of place, would introduce personal opinions, would lead to chaos and general uncontrollability, which is scary. Above all, we must have order, even if it is marching towards our own self destruction. There is still an aroma of hysteria about someone feeling deeply and expressing that. It should be kept behind closed doors. Or it can be expressed on protest marches, accompanied by police cordons to see it doesn’t get out of hand.

I am not here recommending violent disorder. What I see is that it needs to begin with us, with us feeling, being in touch with ourselves and being able to express those feelings without guilt or shame. This is the work for each one of us, together or alone. This is the foundation necessary for the family of human beings to learn to open their hearts to each other, welcome the differences, see the other as myself, and stop the madness of putting vast resources into manufacturing weapons of mass destruction, including nuclear. Bombs don’t kill people. People kill people!

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## About the Author



Anna Harris is a child psychotherapist, who has worked for UK National Health Service clinics for fifteen years, specializing in work with autistic children. A growing discomfort with unequal power relations in the family, school, workplace, institution, or government led her in a more social and spiritual direction. Her recent work focuses on the relationship between the experiences of birth, infancy, mental illness, and societal problems, with the aim of fostering a regenerative, life-affirming consciousness.



## Judith Lipton

At least once a day, sometimes once an hour, I look to the sky, especially towards the west, towards the Trident Submarine Base at Bangor, WA, and wait for the flash. We live 28 miles by air from the Naval Base Kitsap, home to Trident submarines and the Strategic Weapons Facility Pacific (SWFPAC) that “provides the capability of assembly, storage, checkout, onload and offload of missiles; ensures custody, accountability and control of strategic weapons and material; publishes and maintains START procedures and conducts START inspections; and provides technical engineering services for guidance, missile, and launcher support equipment.”

According to Hans Kristensen of the Federation of American Scientists, the SWFPAC and the eight Ohio-class nuclear-powered ballistic missile submarines (SSBNs) homeported at the adjacent Bangor Submarine Base are thought to store more than 1,300 nuclear warheads with a combined explosive power equivalent to more than 14,000 Hiroshima bombs.

This is the prime counterforce target in the United States, the first place that any entity that wanted to attack the US nuclear forces would strike hard and fast. Bangor is a magnet for a counterforce strike or some kinds of terrorism.

Twice a day, I feed my two horses and walk my dogs through a lovely meadow full of wildflowers, and I try to explain to them that this may end at any moment. I hope we'll be together. Since we are so close to Bangor, I think we'll go quickly in the blast and burn phase, probably vaporized, so I have not gotten a gun or something to shoot the animals so they won't suffer from anything from lack of food and water to injuries. I really don't want them to suffer. My youngest dog, Tara, watches the sky carefully, noting ducks but also airplanes and helicopters. We feel a similar sense of dread, I think. I have no hope that my grandchildren will inherit anything. We have no family heirlooms or jewels. It is difficult to live with a fairly complex understanding of annihilation, nothingness. A

complete and final End, the curtains blown away and no theater. I've been doing this for nearly forty years. Each moment is a surprise to me.

The only recent book I know that captures the complete end of everything is *Remembrance of Earth's Past*, also known as *The Three Body Problem*, by Liu Cixin. I highly recommend this trilogy, for two reasons. First, the author augments the concept of omnicide, the death of all, with the concept of mundicide, the death of planets. In addition, the second volume, *The Dark Forest*, Liu examines a game theory problem that underlies all discussion of nuclear weapons, disarmament, national security, and alliances—the problem of selfishness and, hence, defection. As you all know, nuclear weapons theory and the theory of deterrence are built on game theory, ideas developed in the Harvard Department of Economics during and after World War II. Two countries, each with nuclear weapons, are in a non-zero-sum game: they can hold off using them and go about business (each gains), they can blow each other up (each loses), or they can try to trick one another into holding off use while intending a swift first strike. This is called the Prisoner's Dilemma, as illustrated in the television show *Golden Balls*. The rational solution to the Prisoner's Dilemma is to defect, not to cooperate, even though cooperation has a high payoff.

It is only over time, with an elongated shadow of the future, that cooperation makes sense. Another Harvard non-zero-sum game is Chicken, dramatized in *Rebel Without a Cause*. The *Dark Forest* game is built on probability. If a stranger knocks on your door or planet, it is better to annihilate them right away, making the assumption that they want what you've got, rather than hope for cooperation or friendship. The door bell ringer wants your money or life. A communication from outer space probably wants a place to expand, your planet. In *Three Body*, Liu illustrates that it is best to lie low, don't answer the door, and don't expect kindness from extra-terrestrials. Stephen Hawking agreed.

Many people these days seem to think Donald Trump is “playing” chicken with US foreign policy, but then most scholars of deterrence theory assume that the players are rational or sane, while there is considerable evidence that Trump is not. One of the flaws in nuclear deterrence theory is the assumption of rationality.

I love David Krieger, and I appreciate his essay, especially the poem at the end. I appreciate his life work.

In general, I have only admiration for Krieger's essay. Just for the sake of intellectual fun and games, let me make a few additional points. First, I am sick of humanity and sick and tired of anthropocentric points of view. If Homo sapiens represents one species, please consider there are estimated to be from 3 to 30 million animal species, with 10,000 new ones discovered each year. I find estimates of 400,00 plant species. Tom Lehrer sang that we will all go together when we go. Sadly, this includes butterflies and snap dragons and Komodo dragons and lions and tigers and bears, oh my.

A fundamental starting point to the omnicidal discussion of nuclear weapons is the importance of human beings and the ages-long distinction between Homo saps and others that somehow validates human ownership and a right to manipulate or annihilate the biosphere. Who speaks for the trees? The Lorax, of course! If there were world enough and time, I would start a Lorax Society to try to engage every biologist, veterinarian, farmer, fisher, gardener, farrier, animal trainer, animal rights activist, and plain animal lover and admirer into nuclear abolition action. Perhaps tardigrades or maybe cockroaches will make it, but most of the plants and critters on earth are going to die by blast, burns, radiation, and starvation because humans are making a big mistake. We humans shouldn't have dominion over other life forms, and certainly we have no intrinsic rights to deform and destroy them. Under current circumstances, we should use our big brains to get out of this mess, and nothing less than nuclear abolition must be the goal. It is the Pottery Barn policy: we break it, we own it. We are breaking the planet and must fix it.

Another thread running through this important GTI conversation has concerned male-female differences, sexism, and feelings. I find the Heart Sutra from the Buddhist tradition to be useful here:

Form is emptiness, emptiness is form.

Form is not other than emptiness;

Emptiness is not other than form.

The same is true with feelings, perceptions, mental formations and consciousness.

Feelings, perceptions, mental formations, and consciousness are all physical and chemical manifestations of life energy within our brains, none especially different from the other. Mental

formations are the stories we tell ourselves about reality and life, as ephemeral as feelings although they feel more reliable. Although I have co-authored three books about sex differences, when it comes to nuclear weapons, I don't think there are a lot of relevant differences. Females engage in conflicts, "catty undermining," and deceptions. Everybody can be nasty, and everybody can waste time. Males and females can push buttons with launch codes. The reality of nuclear war is so painful that young or old, male or female, we watch cat videos rather than saving our poor planet. From Prufrock: "In the room the women come and go/Talking of Michelangelo." So do the men.

Nuclear war is a bummer. I have been called a Cassandra and a Debbie Downer. It is hard and painful to think about nuclear war at all, and once we do, dreadfully easy to lapse into abstract concepts (like game theory), magical thinking (god won't give us more than we can handle) escapist nonsense (bunkers retrofitted for survivalists), end-times speculations (Book of Revelations, the Rapture), and alt-logic (nuclear war hasn't happened yet, so deterrence must be working.)

I appreciate the notes of commenters who have mentioned that they are in deep mourning much of the time. Yes, I am too. And things are not getting better. While going from 70,000 nuclear weapons to 15,000 warheads is a Good Thing, the slow collapse of "liberal" aspirations and rise of nationalisms is not so good. Nor is the collapsing respectability of fact and reason. If we postulate that feelings, perceptions, mental formations, and consciousness are the result of brain soup, I still believe in rocks and gravity, in verifiable facts and in something approaching truths.

Having just completed an audiobook journey through *War and Peace*, I can say that I think Tolstoy got it right. Neither genius nor philosophy accounts for what happens in war or battles. Shit or opportunity happens, and people react. It is chance, and chance alone, that got Napoleon in and out of Russia in 1812. It is chance, and chance alone, that gives me this hour to write this essay. The missiles may well be on their way.

David Krieger is right: nuclear abolition is our only chance for survival, and the likelihood is not high. The [Back from the Brink proposal](#) gives us some chunks of emergency first aid and a

program that can be endorsed by organizations and governments. The International Campaign to Abolish Nuclear Weapons (ICAN) movement brought us the Treaty on Prohibition of Nuclear Weapons, signed by 59 nations, seeking to give a voice and power to the 184 nations that will die if any combination of the nuclear 9 go to war. Very slowly, politicians in countries without nuclear weapons are expressing themselves, and it is no surprise that Costa Rica, with its zero military budget since 1948, is leading the movement.

Will there be time?

Prufrock once more:

Do I dare

Disturb the universe? In a minute there is time

For decisions and revisions which a minute will reverse.

Days go by in which I try to give myself a nuclear-free zone, at least for a few hours, but the shadows of the jets dispel the distractions. The Blue Angels are coming to Seattle today, so for a week, we'll have loud but not lethal imitation warfare in the skies. Tara and I will look at the sky, waiting. Yes, I dare to disturb universe, I want to throw the switch and take this trolley off its death course. I know David Krieger dares as well. Daring to make change is the purpose of this website, and for that, I thank and salute you all!

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## About the Author



Judith Lipton is a psychiatrist and lifelong antiwar activist. She specializes in psychosomatic medicine and psycho-oncology, and is a Distinguished Life Fellow of the American Psychiatric Association. However, since the early 1960s, her passion has been peace. In 1979, she founded the Washington chapter of Physicians for Social Responsibility (PSR), and was on the National Board and Executive Committee of both PSR and the International Physicians for the Prevention of Nuclear War. She currently serves on the Committee to Abolish Nuclear Weapons of PSR. She has co-authored eight books on war, aggression, and sex, most recently *Strength through Peace: How Demilitarization led to Peace and Happiness in Costa Rica*, and *What the Rest of the World Can Learn from a Tiny Tropical Nation*.

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## Ian Lowe

I appreciated David Krieger's timely article about nuclear disarmament and the many thoughtful responses.

Since Hiroshima and Nagasaki, it has been clear to thoughtful people that nuclear weapons constitute an existential threat to human civilization. Earlier atrocities in World War II, such as the rape of Nanking, the London blitz, and the fire-bombing of Dresden were symptoms of an era in which mass murder of innocent civilians was seen by the military and politicians as legitimate means to their ends. The atomic bomb increased by orders of magnitude the scale of mass murder which was possible. The subsequent development of fusion weapons gave the power-crazed the capacity to murder millions and raised the specter of destroying human society. We had the terrifying notion of Mutually Assured Destruction and military thinking that bordered on the clinically insane. I recall one vivid example from a 1980s visit to the USA, where I saw a newspaper front-page headline, "We're ready for World War Four". Moving beyond the obvious reaction of wondering whether there had been a dramatic event while I was asleep, I read the article with mounting disbelief. The US military had apparently been worried that a full-scale nuclear war might leave them without any weapons of mass destruction. So it had decided to station permanently under the polar ice cap a submarine armed with hundreds of nuclear missiles. One senior military figure cheerfully expressed the thinking behind this move. Even after a total nuclear war in which every missile silo had been exhausted, every bomb at the disposal of the Strategic Air Command had been dropped, and every nuclear submarine in the Atlantic had fired all its missiles, he said, "We would still be able to make the rubble bounce a bit."

As a young physicist, I naively accepted the assurances of my senior colleagues that it would be possible to harness "the peaceful atom"—nuclear power and medical isotopes—without the risk of nuclear war. That was always a dishonest claim. Nuclear power in the USA was a by-product of the

weapons program. The then USSR was primarily interested in nuclear technology to counter what it saw as the threat from US weapons. The first nuclear power delivered to the UK electricity system by the Calder Hall reactor, switched on by the young Queen Elizabeth II, was a public relations stunt to draw attention away from the reactor's real purpose, to produce plutonium for the British bomb. The head of the Australian Atomic Energy Commission in the 1960s was a shameless proponent of the idea that Australia should use its one research reactor to produce nuclear weapons, arguing that it was the best way to protect our large landmass from potential invaders. Like Paul Raskin, I was by the 1960s sufficiently alarmed to be campaigning for elimination of nuclear weapons. The UK, France, and China had joined the arms race, and it was reasonable to conclude that the development and deployment of nuclear weapons would almost certainly mean that some future leader would be sufficiently mad or desperate enough to use them.

The Nuclear Non-Proliferation Treaty was a beacon of hope. The five nations with nuclear weapons agreed to take positive steps to disarm, while, in return, the rest of the world agreed not to develop those weapons. It has since been clear that the nations with nuclear weapons never had any intention of dismantling their stocks. Indeed, several decades later, they are still developing and testing more sophisticated nuclear weapons. The consequence has been inevitable: other nations have used what was ostensibly peaceful technology to develop their own weapons, making it more likely that they will eventually be used. The events of the last decade have sent a clear message to the leaders of small nations. If you don't have weapons of mass destruction that allow you to threaten potential enemies, you can be ruthlessly overthrown, as Saddam Hussein was in Iraq. If you have nuclear weapons, as the DPRK now has, your potential enemies have to negotiate respectfully with you. So we can expect other nations to join India, Pakistan, Israel, and the DPRK by developing nuclear weapons if current trends continue. And that means that such intractable disputes as those in the Middle East, or about the future of Kashmir, are always likely to turn into nuclear war, with unthinkable consequences.

How did we get into this mess? Our evolution as a species allowed us to use physical force to eliminate other hominids. Since we have been the dominant predator on the planet, individuals and societies have used male violence to obtain food, other resources, and mates. For small-scale societies with primitive weapons, it was a successful strategy. When the society reached the limits

of its own resources, the older males in power would send the young men out to wage war. It was a win-win approach; if they prevailed, extra resources became available, and if they were defeated, there were fewer mouths to feed. The planet was gradually dominated by those societies which were most ruthlessly violent. Nuclear weapons mean the continued application of this approach certainly risks the survival of human civilization and possibly risks the survival of our species, so we can no longer afford to allow primitive male attitudes to violence to prevail. Of course, it is hard to dismantle the structures that have been erected to formalize violence. An extreme example is the apparent impossibility to curb access to paramilitary weapons in the USA, even when children are massacred on a depressingly regular basis.

The global political problem is that we have no acceptable way of resolving disputes between nations. The UN was a significant step forward from the League of Nations, but it has two fundamental shortcomings. As the governing body, the General Assembly gives equal representation to each nation state, whether they are globally dominant superpowers or small island states with tiny populations. Secondly, the veto power of the five permanent members of the Security Council means that the UN can never resolve any dispute that involves one of those nations. Witness the inability to respond to Russia, the USA, or China throwing their weight around. Even when a dispute does not directly involve any of the permanent members, one or more of them will usually see political advantage in a particular outcome. So what are ostensibly civil wars in Syria and Yemen rage without any effective international action. Several years ago, the British writer George Monbiot proposed reforming the UN by establishing a global parliament with representation based on population. I think that the maximum size for an effective assembly is probably six or seven hundred, like the British House of Commons, so the assembly would need to have one member for each ten million people. So China and India would each elect about 120 members, the US about 30, and so on. In this model, the General Assembly could act as an upper house on the same basis as the Senates in the US and Australia, where the equal representation for each state is seen as a bulwark against the domination of politics by crude population numbers. The veto powers of the US, Russia, China, France, and the UK would be removed, and the global parliament could coordinate action on global problems such as climate change and the loss of biodiversity, as well as being able in principle to resolve disputes.

At this point, I imagine most readers have thrown up their hands in disbelief, unable to conceive of the possibility that those who have prospered under our existing system would relinquish any of their existing privileges. The glimmer of hope is that the European Union shows that a perception of shared self-interest can persuade politicians to cede some of their powers to a larger unit. Of course, the counter-argument is that the rank and dishonest populism of Brexit, “Make America Great,” or Putin’s approach in Russia demonstrates how easy it is to derail the cooperation agenda. The only reason to have cautious optimism is that global communications systems now make it possible for determined activists to shift the political agenda. The Great Transition Initiative would not have been possible a hundred years ago, when we would have waited months for a letter to arrive, or even thirty years ago before the Internet and email became widely available. As David Krieger argued, our chance of survival now requires us to work with other interest groups such as environmental organizations, women’s associations, the progressive sections of religious organizations, and so on. We don’t have to agree with everything for which the Catholic Church stands to applaud the principles of *Laudato Si’* and work with those who support its approach.

As a final point, I think we need to engage actively with the anti-growth movement. We have known for 45 years, since the release of *The Limits to Growth*, that the mindless pursuit of growth is likely to lead to social, economic and environmental collapse in the next few decades. As long as leaders see continuing growth as an imperative on our finite planet, conflict over its limited resources will be inevitable and the risk of nuclear war will always be there. We desperately need to achieve a peaceful transition from the widespread assumption that unlimited growth is not just possible, but even desirable, for us to have any chance of a peaceful future. Nuclear weapons are simply the latest and most egregious consequence of this misguided belief.

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## About the Author



Ian Lowe is Emeritus Professor of Science, Technology and Society at Griffith University in Brisbane, Australia. He directed Australia's Commission for the Future in 1988 and chaired the advisory council that produced the first national report on the state of the environment in 1996. He has filled a wide range of advisory roles in Australia, including serving as a member of the Radiation Health and Safety Advisory Council for twelve years. He is the author of 15 books and over 100 other publications and part of a global working party of the Council of Academies of Engineering and Technological Sciences, CAETS, devising approaches to meet the UN's 17 Sustainable Development Goals. He has been a reviewer for the IPCC, the International Geosphere-Biosphere Programme, and the UNEP study of Resource Efficiency and Economic Outlook for the Asia-Pacific. In 2009, the International Academy of Sciences, Health and Ecology awarded him the Konrad Lorenz Gold Medal for research aimed at a sustainable future.

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## Hiroo Saionji

The International Campaign to Abolish Nuclear Weapons (ICAN)'s 2017 Nobel Peace Prize was uplifting and encouraging news not only for those who have been striving for nuclear abolition, but also for all of us working for world peace in different ways. At the UN, the desperate cries of hibakusha, the survivors of the atomic bombings of Hiroshima and Nagasaki, were heard, and many years of efforts made by civil society organizations in this field bore fruit when the treaty banning nuclear weapons was adopted with the endorsement of 122 countries.

It was, however, very disappointing that Japan, who should be spearheading such efforts as the only nation to have suffered atomic bombing, decided not to ratify the treaty in consideration of its relations with the United States. As a Japanese national, I find this position hard to accept, and I feel apologetic toward those fighting for nuclear abolition.

I therefore cannot agree more with Krieger that we should not leave the task of nuclear abolition to nation-states alone. It requires collective global action, which ultimately begins with the shift of consciousness of individuals. Changing each individual's consciousness is the starting point to changing the entire world.

As an example of social reformation through the change of people's consciousness and behavior, I often talk about the anti-smoking campaign in the US. Even after the American Medical Association announced that smoking can cause lung cancer, the government did nothing, and the tobacco industry tried to hide this information. However, as the consciousness of the dangers of smoking gradually increased among the general masses, San Francisco adopted an anti-smoking ordinance, then the state of California did, and finally, anti-smoking legislation was enacted on Capitol Hill.

This is an example where ordinary citizens moved an entire nation and its communities. Other examples of this can be seen in the fall of the Berlin Wall, the disintegration of the Soviet Union, and

the abolition of Apartheid in South Africa. At the root of each of these large changes were changes in people's consciousness and behavior. Therefore, a change in people's consciousness is also the prerequisite for the realization of a world without war and nuclear weapons. The issue is how we can increase the number of people who have such consciousness.

I think it is vital for us to share with as many people as possible—among others, with young people and children who are going to shoulder the Earth's future—the fundamental facts and important information, and to awaken them to such awareness as:

- The historic and tragic devastation in Hiroshima and Nagasaki;
- The fact that the use of nuclear weapons will lead to the extinction of humanity;
- The fact that war and armament do not solve problems;
- That, in the present global world, there cannot be peace, security, and profit for one nation alone
- How wasteful and negative the annual \$1.7 trillion on military spending in the world is from a macro or global viewpoint, and how many problems will be solved by reallocating it to humanity's welfare and other positive purposes.

It is my firm belief that moral and spiritual awareness—what may be called the “divine spark”—resides in the heart and mind of every individual. To awaken this divine spark in the spirit of humanity and to foster a culture of oneness, we initiated the Fuji Declaration in 2015 with over 60 partner organizations and 200 founding signatories, including Krieger as well as other prominent scientists, artists, authors, teachers, and world peace advocates the world over. It is an international alliance of individuals and organizations that are united by a shared commitment to live and collaborate toward the advancement of a more harmonious and flourishing world.

It is our hope that initiatives and movements like this would contribute to creating the critical mass of awakened consciousness needed to change the course of humanity toward a new civilization free of nuclear weapons, ensuring the well-being of all forms of life on this precious planet.

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## About the Author



Hiroo Saionji is the president of the Goi Peace Foundation, which is dedicated to fostering a sustainable and harmonious global society, and the president of the World Peace Prayer Society. He received the Philosopher Saint Shree Dnyaneshwara World Peace Prize of India in 2008, as well as the Social Education Distinguished Service Award from Japan's Ministry of Education, Sports, Science and Technology in 2010.





## Lawrence Wittner

We owe a debt of gratitude to David Krieger for his excellent essay, as well as to the commentators on it, for what they have done in the past and are now doing to confront the enormous challenge nuclear weapons pose to the continued existence of life on earth.

Permit me to elaborate on a few points.

Widespread public resistance to nuclear weapons and nuclear war will certainly be a key element in any campaign to end the nuclear menace. In fact, this kind of resistance has already played a central role in reducing nuclear dangers. Starting in 1945, hundreds of lively nuclear disarmament organizations emerged around the world and managed to spark massive uprisings against the nuclear policies of the world's governments. Convincing most people in most nations that they would be safer in a non-nuclear world, this mass movement succeeded in blocking the proliferation of nuclear weapons, reducing the size of nuclear arsenals, and chilling the willingness of government officials to wage nuclear war. Although the nuclear disarmament movement did not secure its long-range goal a nuclear weapons-free world it did manage to curb the nuclear arms race and prevent further nuclear attacks after the destruction of Hiroshima and Nagasaki in 1945.

The causal connection between widespread public resistance to nuclear weapons and the more cautious policies toward nuclear weapons adopted by governments since 1945 can be found in the once top-secret files of these governments, as well as in the statements and published memoirs of public officials. Much of the evidence for this connection is laid out in my three-volume history of the world nuclear disarmament movement, *The Struggle Against the Bomb* (Stanford University Press).

Unfortunately, the nuclear disarmament movement has dwindled considerably since its last mass uprising of the 1980s. Although many leading organizations—such as the Campaign for Nuclear

Disarmament in Britain, Peace Action (the successor to the National Committee for a Sane Nuclear Policy and the Nuclear Weapons Freeze Campaign) in the United States, and International Physicians for the Prevention of Nuclear War around the world continue their anti-nuclear efforts today, their memberships have declined substantially. Moreover, although opinion polls continue to show that most people favor a nuclear-free world, support for it does not seem to be salient.

So what can be done to revive the popular movement? David Krieger suggests building an alliance with other worldwide movements—specifically the peace movement, the environmental movement, and the economic justice movement seeking global systemic change. If that alliance can be developed, it would certainly be a powerful one. It is probably closest to being realized in connection with the peace movement, for numerous peace groups already have nuclear disarmament on their agenda. Even so, some peace organizations with a hard Left perspective appear considerably more interested in denouncing US imperialism than in highlighting ongoing nuclear dangers. Also environmental and economic justice groups have often been reluctant to take on peace and disarmament issues, probably because they consider them more “controversial” or abstract than popular bread-and-butter issues like raising the minimum wage. Even so, to the degree that such an alliance can be developed and, later, strengthened through the platforms of progressive political parties, it should be.

Moreover, although widespread public resistance to nuclear weapons is necessary for building a nuclear-free world, it might not be sufficient. The reason is that nuclear weapons, like other weapons, are a vital part of international conflict and war. Competing territories and, later, nation-states have been engaged in war for most of human history, and a central impulse in the hoary tradition of settling disputes through violence is to reach for the most powerful weapons available. Thus, national security officials are not at all eager to get rid of nuclear weapons or at least their nuclear weapons and this is a key reason why the ultimate goal of the nuclear disarmament movement has remained elusive.

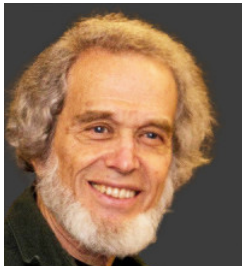
Consequently, to convince government officials (and a portion of the public that shares their views) to move toward a nuclear-free world, it will be necessary to provide them with an alternative framework for national security. And that probably means an international security system, based on governance by either a strengthened United Nations or a world federation. The

bad news is that this international security system is going to be difficult to attain. The good news is that, if we can attain it, we will not only have the ability to create a nuclear-free world, but a peaceful one, as well.

Building a widespread mass movement for nuclear abolition and a more effective structure for global governance is a tall order. But, after all, that's what a great transition means.

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## About the Author



Lawrence Wittner is Emeritus Professor of History at the State University of New York at Albany. He has written many books, including *Rebels against War*, *The Biographical Dictionary of Modern Peace Leaders*, *Peace Action*, *Working for Peace and Justice*, and the award-winning scholarly trilogy *The Struggle against the Bomb*. He has served as president of the Peace History Society and as convener of the Peace History Commission of the International Peace Research Association. He serves as co-chair of the national board of Peace Action, the largest grassroots peace organization in the United States. He holds a PhD in history from Columbia University.

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## Author's Response



## Response to Comments

I want to thank the many commenters on my essay, “Nuclear Abolition: From the Edge of Armageddon to Transformation.” The comments were thoughtful, intelligent, and sometimes passionate. Taken together, they give me hope that change is possible and humanity may somehow find a way through the current threat that nuclear weapons pose not only to human life but to all complex life on our planet.

I will begin with the question: What are nuclear weapons? I recall some lines from a poem by American poet Robert Bly written during the Vietnam War. Bly wrote, “Men like Rusk are not men:/ They are bombs waiting to be loaded in a darkened hangar.” In the same way as Bly poetically removed “Rusk,” then US Secretary of State, from the category of “men,” I would argue that nuclear weapons are not really “weapons” in any traditional sense. Rather, they exist in their own category, defined by their omnicidal threats and capabilities as “instruments of annihilation” or “world-ending devices.”

Most of the comments recognized, either implicitly or explicitly, the unique destructive power of nuclear weapons and how they put us at the edge of Armageddon. Hiroo Saionji underscores the “historic and tragic devastation in Hiroshima and Nagasaki” and “the fact that the use of nuclear weapons will lead to the extinction of humanity.” Ian Lowe argued that “nuclear weapons constitute an existential threat to human civilization.” Lowe went on, “The subsequent development of fusion weapons gave the power-crazed the capacity to murder millions and raised the spectre of destroying human society.” Of course, it is not only the “power-crazed” that have this capability with thermonuclear weapons. It could be any nuclear-armed leader, even the most ordinary, who could stumble into nuclear war. There have been many close calls, more than enough to sound the alarm and keep it blaring.

Unfortunately, awareness of the problem alone will not make it possible to abolish nuclear arsenals. Thus far, it hasn't been sufficient to change the world, although brilliant scientists like Einstein, Szilard, and Pauling did their best to raise such awareness. More recently, Daniel Ellsberg has made the case that nuclear arsenals constitute "Doomsday Machines," threatening the future of humanity. Nonetheless, continued attempts to raise awareness of nuclear dangers and consequences of nuclear war should be an important part of any project seeking to bring about transformative change toward abolishing these weapons.

Some see nuclear arms as a symbol; others, as a symptom. Nuclear weapons have been described as a symbol of our hyper-competitive society, humanity's failure to cooperate, or a lack of trust between states. In my view, it is not sufficient to think of nuclear weapons as symbols or symptoms, although they may be these as well. Nuclear weapons, regardless of what they symbolize, are the problem. They are humankind's most acute problem, and they must be eliminated as a matter of urgency. The question is how.

Before turning to this question, I will first examine some gender issues that were raised in the commentary, an aspect of the discussion that I found to be very rich. Anna Harris raised the question of the disproportionate number of men responding to the issue of "nuclear Armageddon." She wrote, "What is lacking, to put it bluntly, is the ability to talk about feelings, which is something women seem to have developed more, and without which this whole discussion becomes one of control and numbers which renders it to me almost totally meaningless." I agree with Anna's call for bringing the passion of one's feelings into the abolition project, and I understand the "unspeakable rage" that she reports feeling. Little is gained by a focus on control and numbers, which has been the principal approach of the leaders of nuclear-armed states. I believe there is only one number that truly matters when it comes to nuclear arms, and that number is zero. This is in line with Richard Falk's warning about the dangers of focusing on the "arms control" and the managerial aspects of nuclear armaments, as opposed to the far more critical focus on their abolition.

Judith Lipton also weighed in, stating, "Males and females can push buttons with launch codes. The reality of nuclear war is so painful that young or old, male or female, we watch cat videos rather than saving our poor planet." In this way, she reminded us that we are all in this together, gender differences related to feelings notwithstanding. The truth is that most citizens of the planet

are distracted by more immediate concerns than nuclear Armageddon and have an insufficient awareness of nuclear dangers to play an effective role in pressing for their elimination. There can be no doubt, though, that bringing feelings and passion to the endeavor is an important project for both men and women. Both are needed.

What needs to be done to abolish nuclear weapons? There are obviously no easy answers to this question. If there were, the goal would have been accomplished already. We continue to live in a world in which a small number of leaders in a small number of countries with nuclear arms are holding the world hostage to their perceptions of their own national security. A starting point would be to shift the public perceptions of the ability of nuclear weapons to provide for their security. One way to do this is to debunk nuclear deterrence, as did David Barash, who concluded, "In short, deterrence is a sham, a shibboleth evoked by those seeking to justify the unjustifiable."

Other commenters discussed the importance of building trust among states and of increasing cooperation among them. Some commenters, including Andreas Bummel, argued that it would be necessary for states to cede some of their sovereignty to international organizations and that strengthened international institutions would be needed. Bummel wrote, "What is required... is to relinquish sovereignty in this domain and to accept a global authority that would provide for enforcement and collective security." Lawrence Wittner stresses the need for an "international security system based on governance by either a strengthened United Nations or a world federation."

The creation of new global institutions presents us with a chicken-and-egg dilemma: can we afford to wait for such new institutions to form and be accepted given the urgency of the nuclear dangers confronting the world? Or, on the other hand, can we afford not to seek to create such new institutions, given the same urgency of nuclear dangers? What we can say with certainty is that national security is threatened, not enhanced, by nuclear arms, and it would be wise to shift the focus from national security to global security.

Ian Lowe touched upon the relationship between nuclear power and nuclear weapons. Although I did not address the issue in my essay, I fully agree with the premise that nuclear power reactors and research reactors have often been a façade for developing nuclear weapons. In addition to the link to nuclear weapons proliferation, nuclear power has other serious problems, such as no adequate

plan for long-term storage of high-level radioactive wastes, which will remain dangerous for tens of thousands of years; a history of serious reactor accidents, such as those at Three Mile Island, Chernobyl, and Fukushima; offering potential targets for terrorists and war-time enemies; and high capital costs. For all these reasons, most significantly the relation to nuclear weapons proliferation, nuclear power remains an extremely poor alternative to truly safe renewable energy sources.

I will conclude with three important quotes with which I strongly agree and which I believe carry deep seeds of wisdom.

The first from T. S. Eliot's poem, "The Love Song of J. Alfred Prufrock" is offered by Judith Lipton in her contribution:

Do I dare Disturb the universe?/In a minute there is time/For decisions and revisions which a minute will reverse.

The second quote is from Richard Falk's comment: "In such a time [as ours], it is itself an act of will to keep the flames of hope and possibility from being snuffed out."

The third is a quote offered by David Barash drawing from ancient Jewish wisdom: "It is not for you to finish the task, but neither is it for you to refrain from it."

We must not lose sight of the fact that, as T. S. Eliot reminds us, with nuclear arms, everything could change in a moment's time. That is the dangerous nature of the Nuclear Age. It is only by our commitment and acts of will that we may be able to keep hope alive, protect our world, and pass it on intact to future generations. We may not finish the task, but we must accept the challenge and engage in it with passion if we are to create the awareness, trust, cooperation, and institutional framework to achieve the goal of nuclear zero.

I appreciate the work of the Great Transition Initiative, and the opportunity to share my thoughts with you and to receive yours in return.